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CLAIMS

What is claimed is:

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1. In a communication medium including a first set of n communication channels and a second set of m communication channels, a method for selecting sensor channels in said first set for quantifying crosstalk from said second set, the method comprising:

- a) operating said first set of communication channels in a receive-only mode;
 - b) choosing a subset S_1 of size m of said n communication channels;
- c) estimating the expansion coefficients of said n communication channels as a predefined function of said subset S_I and signals received by said n communication channels;
 - d) choosing a candidate subset S_2 of size m of said n communication channels where the determinant of a matrix of said expansion coefficients corresponding to said subset S_2 is greater than the determinant of a matrix of said expansion coefficients corresponding to any other subset of size m of said n communication channels divided by a predefined bound D;
 - e) calculating a threshold α;
 - f) choosing a final subset S_2 that is an α -amplifier of said threshold α ; and
- g) employing said communications channels in said final subset S_2 as sensor channels for quantifying crosstalk from said second set of communication channels.
- 2. A method according to claim 1 wherein said calculating a threshold step comprises calculating α as a predefined function of said bound D and a predefined number I of replacement iterations.
- 3. A method according to claim 2 wherein said choosing a final subset step comprises replacing any of said channels in said candidate subset S_2 during at most said I replacement iterations.

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